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1 UNITED STATES PATENT AND TRADEMARK OFFICE

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4 BEFORE THE BOARD OF PATENT APPEALS
5 AND INTERFERENCES
6

7
8 *Ex parte* MALIN E. HOLCOMB, DAN ROBERTSON,
9 and JON-MICHAEL KASTEN
10

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12 Appeal 2007-4268
13 Application 10/725,048
14 Technology Center 3600
15

16
17 Decided: March 7, 2008
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20
21 *Before:* TERRY J. OWENS, JENNIFER D. BAHR and
22 STEVEN D.A. McCARTHY, *Administrative Patent Judges.*
23
24 McCARTHY, *Administrative Patent Judge.*
25

26 DECISION ON APPEAL
27

28 STATEMENT OF THE CASE

29 The Appellants appeal under 35 U.S.C. § 134 (2002) from the final
30 rejection of claims 1-22. We have jurisdiction under 35 U.S.C. § 6(b)
31 (2002).

The Appellants' invention relates to an adjustable seat for a wheelchair. Independent claim 1 is representative of the Appellants' claims and read as follows:

1. A seat back for a wheelchair comprising:

- a shell which is rigid and curved, the shell having a back panel with two lateral sides, a first wing fastened in a first position to the back panel and projecting forward from one lateral side, and a second wing fastened in a second position to the back panel and projecting forward from the other lateral side, wherein the first position and the second position are adjustable to alter curvature of the shell;
- a cushion attached to the shell and having a body which stretches and contracts to conform to alteration of the curvature of the shell; and
- a fastener arrangement to attach the shell to a frame of the wheelchair.

Claims 1, 5 and 7-11 stand rejected under 35 U.S.C. § 102(b) (2002) as being anticipated by Chew (U.S. Patent 6,257,664). Claims 2-4, 6 and 12-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chew in view of Stulik (U.S. Patent 5,370,444).

We affirm the rejection of claims 1, 5 and 7-10 under section 102(b). We reverse the rejection of claim 11 under section 102(b). We affirm the rejection of claims 2-4, 12, 13, 15-18 and 20-22 under section 103(a). We reverse the rejection of claims 6, 14 and 19 under section 103(a).

ISSUE

The four issues in this appeal are:

(1) Whether Chew discloses, or Chew and Stulik together teach, a seat back including a shell and “a cushion attached to the shell and having a body which stretches and contracts to conform to alteration of the curvature of the shell;”

(2) Whether the art of record teaches a seat back including a back panel having “a central portion with one side from which a first lateral panel projects in a forward direction and with another side from which a second lateral panel projects in the forward direction;”

(3) Whether Chew discloses a seat back including a fastener arrangement comprising a plurality of fasteners each having a bracket with a slot, a hook portion with an aperture and “a threaded fastener passing through the slot and into the aperture;” and

(4) Whether Chew and Stulik teach a seat back in which the cushion “further comprises a cover of stretchable material encasing the body.”

FINDINGS OF FACT

The record supports the following findings of fact (“FF”) by a preponderance of the evidence.

1. Chew discloses a “seat back assembly” for a wheelchair which is adjustable to accommodate patients of different widths. (Chew, col. 1, ll. 10-17). The back assembly includes a base or back member, mounting hardware and one or more lateral supports (stabilizers 19). (Chew, col. 2, ll. 60-63). The lateral supports are coupled to the back member so as to permit the supports to be “adjusted in and out and at various angles relative to the back member.” (Chew, col. 3, ll. 49-51).

2. Chew describes the back member of the back assembly as consisting of “one or more rigid shells *covered* with a compressible foam.” (Chew col. 1, ll. 59-61 [emphasis added]; *accord, id.* col. 2, ll. 19-20; col. 2, ll. 63-64; and col. 3, ll. 47-48). The reference also discloses that “[a] foam covering system is provided which accommodates adjustment of the lateral members relative to the back.” (Chew, col. 2, lines 23-25 and col. 3, ll. 56-58). Chew’s drawings do not show the “foam covering system.”

3. Stulik discloses a vehicle seating cushion which may be extended or collapsed to accommodate operators of various sizes. (Stulik, col. 1, ll. 6-11). The cushion may be used to cover either the lower seat portion or the backrest portion of the seat. (Stulik, col. 3, ll. 17-20).

4. The cushion consists of a foam member covered by a layer of cloth or vinyl. The foam member is separated into three regions: a rear region, a middle region and a front region. These regions are separated from one another by gaps. The gaps are connected at their uppermost edges by strips of foam and by the cloth or vinyl covering. (Stulik, col. 3, l. 49 – col. 4, l. 3). The cushion may be collapsed by pushing the front, middle and rear regions of the cushion toward each other, thereby narrowing the gaps between the sections. (Stulik, col. 4, ll. 19-36).

5. The seat itself includes upper and lower telescoping support members. Stulik’s Figs. 2 and 3 portray the lower support member as a plate bent to provide an extension section for connection to the vehicle. These figures portray the upper support member as a plate seated on the lower support member to permit the upper support member to slide over the lower support member. The front region of the cushion is affixed to the upper support member. (Stulik, col. 4, ll. 37-57 and Figs. 2-3). The sliding

1 movement of the upper support member relative to the lower support
2 member facilitates the collapse and extension of the cushion to
3 accommodate operators of various sizes. (Stulik, col. 4, l. 58 – col. 5, l. 8).

4
5 PRINCIPLES OF LAW

6 “To anticipate a claim, a prior art reference must disclose every
7 limitation of the claimed invention, either explicitly or inherently.” *In re*
8 *Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). In determining whether
9 limitations recited in the claim are disclosed by the reference, the language
10 of the claim is to be given its “broadest reasonable interpretation consistent
11 with the specification,” construing the claim language and specification as
12 they would be understood by one of ordinary skill in the art. *In re American*
13 *Acad. of Science Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting
14 *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990)).

15 A claim is unpatentable for obviousness under 35 U.S.C. § 103(a) if
16 “the differences between the subject matter sought to be patented and the
17 prior art are such that the subject matter as a whole would have been obvious
18 at the time the invention was made to a person having ordinary skill in the
19 art to which said subject matter pertains.” In *Graham v. John Deere Co.*,
20 383 U.S. 1 (1966), the Supreme Court set out factors to be considered in
21 determining whether claimed subject matter would have been obvious:

22
23 Under § 103, the scope and content of the prior art
24 are to be determined; differences between the prior
25 art and the claims at issue are to be ascertained;
26 and the level of ordinary skill in the pertinent art
27 resolved. Against this background the obviousness

1 or nonobviousness of the subject matter is
2 determined.
3

4 *Id.*, 383 U.S. at 17.
5

6 ANALYSIS

7 A. *The Rejection of Claims 1, 5, 9 and 10 Under Section 102(b)*
8 *As Being Anticipated by Chew*

9 The Appellants argue the patentability of claims 1, 5, 9 and 10 as a
10 group. (Br. 6-8). Independent claim 1 will be treated as representative of
11 the group. 37 C.F.R. § 41.37(c)(1)(vii) (2007).

12 The Appellants argue that Chew fails to disclose a seat back including
13 a shell and “a cushion attached to the shell and having a body which
14 stretches and contracts to conform to alteration of the curvature of the shell.”
15 (Br. 6). The Examiner construes the phrase “a cushion . . . having a body
16 which stretches and contracts to conform to alteration of the curvature of the
17 shell” to be “so broad that virtually any compression or stretching of a seat
18 back cushion would read on this claim.” (Supp. Ans. 2). In light of this
19 construction, the Examiner finds that “the components of the seat back are
20 bent and adjusted by a user leaning against the seat back, which would
21 inherently stretch and contract the cushion body attached to the
22 components.” (Ans. 4). The Appellants do not appear to have contested this
23 finding.

24 We agree with the Examiner that Chew’s back member and lateral
25 supports likely will undergo such bending and adjustment when the user
26 leans against the back assembly. Since Chew’s back member is covered
27 with foam (FF 2), the foam covering the back member must stretch and

1 contract to conform to the alteration of the curvature of the back member
2 when an occupant leans against in the back assembly. Therefore, Chew does
3 disclose a cushion which “stretches and contracts to conform to alteration of
4 the curvature of the shell.”

5 On the record before us, the Appellants have not shown that the
6 Examiner erred in rejecting claim 1 under section 102(b). Likewise, the
7 Appellants have not shown that the Examiner erred in rejecting claims 5, 9
8 and 10, which depend from claim 1 and were not argued separately. *In re*
9 *King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

10
11 *B. The Rejection of Claims 7 and 8 As Being Anticipated by Chew*

12 With respect to dependent claims 7 and 8, the Appellants contend that
13 Chew does not disclose a seat back including a shell “wherein the back panel
14 of the shell comprises [a] central portion from one side of which a first
15 lateral portion extends at a forward angle, and from another side of which a
16 second lateral portion extends at a forward angle.” (Br. 8). The Examiner
17 contends that Chew’s Fig. 2 shows this feature. (Ans. 6-7). Figure 2, which
18 we reproduce below, is a side elevational view showing the back member
19 and lateral supports 19 of Chew’s back assembly 10:

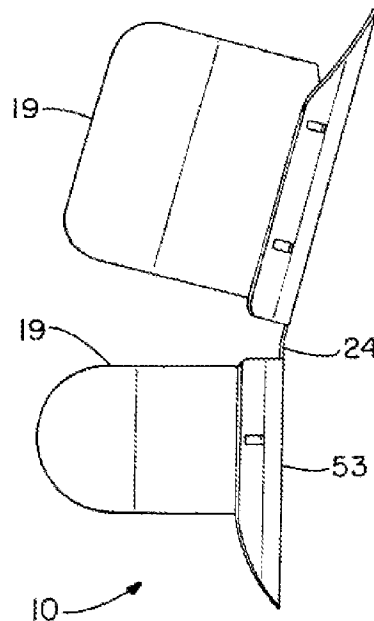


FIG. - 2

Figure 2 appears to show a back member consisting of a thoracic support and a lumbar sacral support 53 coupled by a locking hinge 24. (See Chew, col. 3, ll. 5-6 and 49-58). The thoracic support and the lumbar sacral support 53 each appear to include a central spinal channel distinguished by contour lines along the two supports. (See *id.*). Lateral supports 19 (only one shown in Fig. 2) appear to project forwardly from one side of the spinal channel, as evidenced by the manner in which the three laterally-extending slits through the panels are shown in Fig. 2.

The Appellants contend that Chew's "back panel 50 is a smooth sheet that gradually curves and does not have a central portion with two separately defined angled lateral portions." (Br. 8). Neither claim 7 nor claim 8 recites "two separately defined angled lateral portions." Chew discloses a back member comprising a central portion (namely, the spinal channel) and two lateral portions which extend at a forward angle in the sense that the lateral

portions curve forwardly. On the record before us, the Appellants have not shown that the Examiner erred in rejecting claims 7 and 8 under section 102(b).

C. The Rejection of Claim 11 As Being Anticipated by Chew

With respect to claim 11, the Appellants argue that Chew's back assembly does not include slotted brackets attached to the shell; separate hook portions; and threaded fasteners which pass through the slots in the brackets and into the apertures in the hook portions. (Br. 9). The Examiner finds that:

Figure 6 of Chew et al. clearly shows that the pin projecting from the bracket 26 may be a threaded fastener. Also, Figure 8 of Chew et al. shows that the pin 33' is secured to the bracket 26 via a slot in the mounting member 32'. . . . Because the pin 33 passes through the aperture 39 of the hook portion 35 (See Fig. 10) and the slot of the bracket 26, Chew et al. teaches all the limitations of claim 11.

(Ans. 9).

The Examiner identifies Chew's first transverse members 26 as corresponding to the brackets recited in claim 11 and Chew's cane clamps 34 as corresponding to the hook portions recited in the claim. Chew's mounting hardware does not include threaded fasteners passing through slots in the first transverse members and into apertures in the cane clamps. Chew's pin 33' is not described or illustrated as a threaded fastener. While there is a threaded fastener shown in Chew's Fig. 7 with no reference numeral which passes through a slotted connection 28' in Chew's second

1 mounting member 32' and a dovetail engagement 37 in the first transverse
2 member 26, this threaded fastener does not pass into an aperture in a cane
3 clamp 34, the structure on which the Examiner reads the hook portion of
4 claim 11. On the record before us, the Appellants have shown that the
5 Examiner erred in rejecting claim 11 under section 102(b).

6

7 *D. The Rejection of Claims 2-4, 12, 13, 15-17 and 20-22 As*
8 *Having Been Obvious from Chew in Light of Stulik*

9 The Appellants contend that the Examiner erred in rejecting claims 2,
10 3 and 12-22 because Chew and Stulik would not have suggested a seat back
11 including a back panel having "a central portion with one side from which a
12 first lateral panel projects in a forward direction and with another side from
13 which a second lateral panel projects in the forward direction." (Br. 12-13).
14 As discussed previously in connection with the rejection of claims 7 and 8
15 under section 102(b), we agree with the Examiner (Ans. 6-7) that Chew's
16 Fig. 2 teaches this feature.

17 The Appellants contend that the Examiner erred in rejecting claims 2-
18 4, 6 and 13-22 under section 103(a) because the teachings of Chew and
19 Stulik would not have suggested "a cushion . . . having a body of a resilient
20 material" which "stretches and contracts conforming to alteration of the
21 length of curvature of the shell." (Br. 10). The Examiner concludes that
22 "one of ordinary skill would have been motivated by the teachings of Stulik
23 to modify seat cushions of seat backs with multiple sections that adjust in
24 any direction." (Ans. 7). We agree on the basis that, "if a technique has been
25 used to improve one device, and a person of ordinary skill in the art would
26 recognize that it would improve similar devices in the same way, using the

1 technique is obvious unless its actual application is beyond his or her skill.”
2 *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1740 (2007).

3 Chew teaches a back assembly for a wheelchair having lateral
4 supports which slide relative to the back member. (FF 1). Stulik teaches a
5 seat cushion including a foam member separated into regions by gaps which
6 are connected at their uppermost edges by strips of foam and by the cloth or
7 vinyl covering. (FF 4). A front region of the cushion is affixed to an upper
8 support member capable of sliding movement relative to a lower support
9 member. Stulik teaches that this sliding movement facilitates the collapse
10 and extension of the cushion to accommodate operators of various sizes.
11 (FF 5). One of ordinary skill in the art could have improved Chew’s back
12 assembly in the same manner by covering the back member and the lateral
13 stabilizers with a foam member having gaps or pleats. That one of ordinary
14 skill in the art could have predicted from Stulik’s disclosure that this foam
15 would improve Chew’s back assembly in the same manner that the foam
16 member improved Stulik’s vehicle seat, namely, by extending or collapsing
17 as underlying supports slide relative to each other so as to accommodate
18 users of different sizes.

19 The Appellants contend that “[s]ignificant unobvious modifications to
20 Stulik’s cushion would be required for it to work with that curving, laterally
21 adjustable [seat] back in Chew” (Br. 11). In support of their
22 contention, the Appellants present a series of arguments suggesting reasons
23 why the application of Stulik’s teachings would have required significant
24 unobvious modifications of Chew’s back assembly. (Br. 11-12). We agree
25 with the Examiner (Ans. 8) that these arguments incorrectly seek to attack
26 the rejection by pointing out deficiencies in one particular embodiment

1 taught by Stulik rather than by addressing what Chew and Stulik teach as a
2 whole. *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985). On the record
3 before us, the Appellants have not shown that the Examiner erred in
4 rejecting claims 2-4, 12, 13, 15-17 and 20-22 under section 103(a).

5

6 *E. The Rejection of Claims 6, 14 and 19 As Having Been Obvious*
7 *from Chew in Light of Stulik*

8 Claims 6, 14 and 19 each recite a seat back in which the cushion
9 “further comprises a cover of stretchable material encasing the body.” The
10 Examiner finds that Stulik teaches this limitation because the cover of
11 Stulik’s cushion changes shape and length during adjustment of the cushion.
12 (Office Action, March 30, 2005 at 6). We agree with the Appellants (Br. 13)
13 that the cushion collapses by folding portions of the cover into the gaps
14 between the regions of the cushion. (Stulik, col. 4, ll. 24-26). The cover
15 need not stretch or contract to fold in this manner. Hence, the behavior of
16 Stulik’s cushion while extending or collapsing does not suggest a cover of
17 stretchable material encasing the cushion.

18 The Examiner construes “stretchable material” as used in claims 6, 14
19 and 19 to mean any material “capable of extending in length.” (Ans. 8; *see*
20 *also* Supp. Ans. 3). Applying this construction, the Examiner finds that the
21 cloth covering taught by Stulik is a “stretchable material” because “any cloth
22 material is inherently stretchable to some degree.” *Id.* We believe that the
23 Examiner’s interpretation of the phrase “stretchable material” is
24 unreasonably broad. Taking the Examiner’s finding to its logical
25 conclusion, almost any material would be “stretchable” in the sense of being
26 capable of a microscopic level of strain under proper stress conditions.

1 Interpreting the word “stretchable” this broadly essentially reads the word
2 out of the claim. *See Stumbo v. Eastman Outdoors, Inc.*, 508 F.3d 1358,
3 1362 (Fed. Cir. 2007) (denouncing claim constructions which render phrases
4 in claims superfluous).

5 We agree with the Appellants that the word “stretchable” requires
6 sufficient stretchability to allow “the cushion body to stretch and contract
7 enough to conform to alteration of the seat shell.” (Reply Br. 3). When
8 claims 6, 14 and 19 are construed in this manner, Chew and Stulik do not
9 teach a seat back in which the cushion “further comprises a cover of
10 stretchable material encasing the body.” On the record before us, the
11 Appellants have shown that the Examiner erred in rejecting claims 6, 14 and
12 19 under section 103(a) over Chew in view of Stulik.

13
14 *F. The Rejection of Claim 18 As Having Been Obvious from Chew*
15 *in Light of Stulik*

16 Independent claim 18 recites a seat back including a cushion having a
17 body of resilient material “wherein the body comprises a central section
18 adjacent the back panel of the shell, a pleated first lateral section adjacent
19 the first wing, and a pleated second lateral section adjacent the second
20 wing.” The Appellants contend that Chew

21
22 teaches a seat back having a horizontally
23 adjustable curvature, whereas the Stulik patent
24 teaches a cushion that is vertically adjustable in a
25 linear manner. As a consequence, [the] references
26 together do not suggest using their articles in
27 concert, much less modifying [Stulik’s] teaching
28 by rotating its cushion and changing the respective
29 sizes of its sections to accommodate the adjustable
30 wings of Chew

1
2 (Br. 14). As noted earlier, the test for determining whether the subject
3 matter of claim 18 would have been obvious to one of ordinary skill in the
4 art is not whether Chew and Stulik “suggest using their articles in concert”
5 but whether those references as a whole would have taught the claimed
6 subject matter. *Etter*, 756 F.2d at 859.

7 The teachings of Chew and Stulik would have suggested to one of
8 ordinary skill in the art to rotate the gaps of Stulik’s cushion to a vertical
9 orientation so that the cushion might conform to alterations of the curvature
10 of the back assembly caused by horizontal movement of lateral supports.
11 We agree with the Examiner’s finding (Ans. 7) that Stulik criticizes “seat
12 cushions requir[ing] multiple pieces of cushion elements which must be
13 connected to one another.” (Stulik, col. 1, ll. 39-49). This criticism would
14 have suggested upholstering the lateral supports and the back member of
15 Chew’s back assembly with a unitary foam member. One of ordinary skill
16 in the art would have been capable of adapting a unitary foam member to
17 discontinuities in the curvature such as those where the lateral stabilizers
18 meet the back member in Chew’s back assembly by placing the gaps or
19 pleats in the lateral sections of the cushion adjacent the lateral stabilizers.
20 (*Cf.* Stulik, col. 5, l. 66 – col. 6, l. 12, which teaches how to adapt a unitary
21 cushion to cover the discontinuity in the curvature at the junction between a
22 seat rest and a back rest). On the record before us, the Appellants have not
23 shown that the Examiner erred in rejecting claim 18 under section 103(a) as
24 being unpatentable over Chew in view of Stulik.

1 CONCLUSION OF LAW

2 On the record before us, the Appellants have not shown that the
3 Examiner erred in rejecting claims 1, 5 and 7-10 under section 102(b) as
4 being anticipated by Chew or claims 2-4, 12, 13, 15-18 and 20-22 under
5 section 103(a) as having been obvious from Chew in view of Stulik. The
6 Appellants have shown that the Examiner erred in rejecting claim 11 under
7 section 102(b) and claims 6, 14 and 19 under section 103(a).

8
9 DECISION

10 The Examiner's rejections of claims 1-5, 7-10, 12, 13, 15-18 and 20-
11 22 is affirmed. The Examiner's rejections of claims 6, 11, 14 and 19 is
12 reversed.

13 No time period for taking any subsequent action in connection with
14 this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R.
15 § 1.136(a)(1)(iv) (2007).

16
17 AFFIRMED-IN-PART

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